



Dr. Jagmohan Tanti

Associate Professor

Department of Mathematics,

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Ph.D in Mathematics from University of Pune, 2012

MA in Mathematics from Utkal University, Bhubaneswar, 2004

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Area of Interest: Algebra, Number Theory.

Teaching and Research Experience:

1. Postdoctoral fellow at **Harishchandra Research Institute, Allahabad** from August 20, 2010 – April 12, 2011.
2. Assistant Professor at **Department of Mathematics, Central University of Jharkhand, Brambe, Ranchi, Jharkhand, India** from April 13, 2011 to January 22, 2021.
3. Associate Professor at **Department of Mathematics, Babasaheb Bhimrao Ambedkar University, Lucknow** from January 25, 2021 to present.

Courses Taught:

Calculus, Complex Analysis, Linear Algebra, Mathematical Analysis, Fundamentals of Mathematics, Field Theory, Algebraic Number Theory, Algebraic Geometry, Coding Theory, Differential Geometry, Lie Groups and Lie Algebra, Commutative Algebra, Theory of Rings and Modules, Representation Theory, Topology, Metric space and Topology.

Publications:

1. Jagmohan Tanti and S. A. Katre, Euler's criterion for septic non-residues, *Int. J. of Numb. Th.* 6, No. 6 (2010) 1329-1347.
2. Jagmohan Tanti and R. Thangadurai, Distribution of residues and primitive roots, *Proceedings - Mathematical Sciences, Indian Academy of Sciences*, Vol. 123, No. 2, (2013) 203-211.
3. R. S. Kulkarni and J. Tanti, Space of invariant bilinear forms, *Proceedings-Mathematical Sciences, Indian Academy of Sciences*, Vol. 128, No. 4, (2018) 47.
4. Shikha Singh and J. Tanti, Hybrid mean value of $2k$ -th power inversion of L-functions and general quartic Gauss sums, *Proceedings-Mathematical Sciences, Indian Academy of Sciences*, Vol. 129, No. 2, (2018) 23.
5. S. A. Katre and J. Tanti, Euler's criterion for eleventh power nonresidues, *Proceedings-Mathematical Sciences, Indian Academy of Sciences*, Vol. 129, No. 2, (2018) 41.

6. Jagmohan Tanti, Euler's criterion for prime order in the PID case, **Acta Arithmetica**, Vol. 192, No. 3, (2020) 259-265.
7. Md. H. Ahmed, J. Tanti and A. Hoque, Complete solution to cyclotomy of order $2l^2$ with prime l , **Ramanujan Journal**, Vol. 53, No. 3, (2020) 529-550.
8. Puja Bharti and J. Tanti, Similarity classes of Linear Transformations, **The J. Ind. Math. Soc.**, Vol. 87, No. 3-4, (2020) 148-164.
9. Md. H. Ahmed and J. Tanti, Cyclotomic Numbers and Jacobi Sums: A Survey, **a book chapter in the edited book** entitled "Class groups of number fields and related topics" Springer, ISBN: 978-981-15-1513.

Presentations in Conferences:

1. Jagmohan Tanti, "Euler's criterion for septic nonresidues" in a national conference on Number theory, Fixed point theory and their applications organized by the Dept. of Math., Osmania univ. Hyderabad (30-31 Aug. 2007).
2. Jagmohan Tanti, "Applications of linear algebra to roots of unity in finite fields" in the 73rd annual conference of IMS organised by Dept. of Math. Univ. of Pune, College of Eng. Pune and Ferg. College Pune (27-30 Dec. 2007).
3. Jagmohan Tanti, "Carlitz's equation over finite fields" in National Symposium in Number Theory jointly organised by IISER, Pune and Bhaskaracharya Pratishthana, Pune (31st May to 3rd June, 2011).
4. Jagmohan Tanti, "Distribution of residues and primitive roots" in the 1st Bi-annual conference of Jharkhand Society of Mathematical Sciences, Ranchi University, Ranchi (Nov. 22 to 23, 2012).
5. Jagmohan Tanti, "Space of Invariant Bilinear Forms" in National Conference on '**Recent Advances in Statistical and Mathematical Sciences and their Applications**' during October 04-06, 2014 held at Kumaun University, Nainital.

Invited Lectures:

1. Participated as a Resource person (delivered three invited talks on 'Group law on a non-singular cubic, Introd. Fermat's last Theorem, Kummer's Approach to Fermat's last Theorem) in the Refresher course in '**Mathematics**' organized by UGC- Human Resource Development Centre, Ranchi University during 02-02-2015 to 22-02-2015.
2. Participated as a Resource person in the Instructional School 2013 organized at Centre for Applied Mathematics, Central University of Jharkhand.
3. Delivered an invited talk entitled "A survey to Fermat's Last Theorem" in the 2nd **Bi-annual conference of Jharkhand Society of Mathematical Sciences**, Ranchi College, Ranchi (Nov. 21 to 23, 2015).
4. Delivered a Lecture entitled "Unification of Euler's criterion of prime order" in the **UGC sponsored International conference on Recent Advances in Mathematics and Scientific computing**, Magadh University, Bodh-Gaya (Sept. 18 to 19, 2018).

5. Delivered a symposium talk entitled “Applications of Jacobi sums to Euler's criterion” in the **International conference on Algebra and Analysis**, Savitribai Phule Pune University, Pune (Dec. 19-22, 2017).
6. Delivered a Lecture entitled “Group Law on an Elliptic curve” in the **Model National Seminar on exploration of inroads to good mathematics**, Gossner college, Ranchi (Jan. 29 & Feb. 05, 2017).
7. Delivered a Lecture entitled “Digital Signature Schemes” in the **National Seminar on Real World application of Mathematics and Statistics**, Amity University Jharkhand, Ranchi (May 02-03, 2019).
8. Delivered a lecture in the **online FDP on “Recent development in Mathematical Sciences (RDMS)”**, organised by the Dept. of Mathematics, Central University of Jharkhand, Ranchi during Nov. 6-10, 2020.

Fellowships and Awards:

1. **Council of Scientific and Industrial Research (CSIR) JRF(NET)** (Dec. 2005) for pursuing Research/Ph. D. in the field of Mathematics.
2. **Graduate Aptitude Test in Engineering (GATE)**(2006), **GATE Score: 466, All India Rank: 61** for pursuing M. Tech/Research/Ph. D. in the field of Mathematics (couldn't avail).
3. **National Board of Higher Mathematics(NBHM)(2010)** scholarship for Post doctoral studies in the field of Mathematics (couldn't avail).
4. **HRI Postdoctoral fellowship** (2010).
5. **IISER Pune Postdoctoral fellowship** (2010) (couldn't avail).
6. **IISER Mohali Postdoctoral fellowship** (2010) (couldn't avail).
7. **A. K. Agarwal Award-2020** instituted by the Indian Mathematical Society.

Training Programs:

1. Participated in the 70th Orientation Programme organized by UGC-Academic Staff College, Ranchi University, 2012.
2. Participated in the UGC-Sponsored Refresher Course in the Subject ‘*Statistics, Mathematics, Com. Sc. & I. T. (MD)*’ organized by ASC, Kumaun University, Nainital during 25-09-2014 to 15-10-2014.
3. Participated in the 'Pt. Madan Mohan Malviya Faculty Development Programme' organised by SavitribaiPhule Pune University, Pune during Nov. 12-18, 2018.
4. Participated in the 'Science Academies Refresher course on Analysis' organised by Tezpur University during Feb. 18 to March 2, 2019.
5. Participated in the 'MOOC on Teaching Excellence' organised by ICAR- NAARM, Rajendranagar, Hyderabad during Nov. 1 – 30, 2019.
6. Participated in the e-Faculty Development Programme on “Applied Mathematics and Related fields (AMRF)” organised by GLA University Mathura during Aug. 24-29, 2020.

Miscellaneous:

1. Participated as an associate teacher for Algebra in AFS2 (08-06-2009 to 04-07-2009) organised by Bhaskaracharya Pratishthana, Pune and Dept. of Math. Univ. of Pune, sponsored by NBHM, DAE, Govt. of India.
2. Organized and Co-ordinated the Instructional School 2013 (17-12-2013 to 06-01-2014) on “Group Theory and Linear Algebra” at Centre for Applied Mathematics, Central University of Jharkhand.